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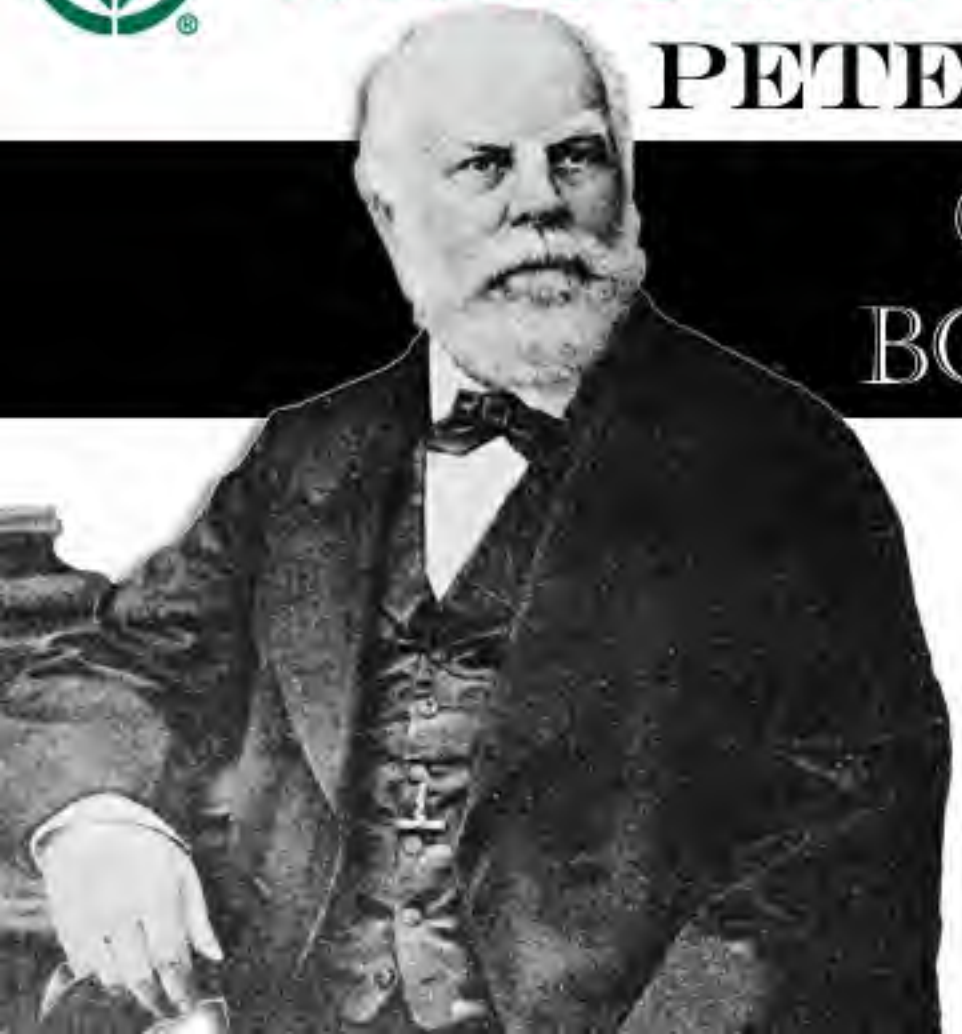

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10
110 — 15

1673

Sciadopitys

0 1 2 3 4 5 6 7 8 9 10
cm
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10760

Lathraea squamaria L
Clandestina pendulisflora Lam

Fers II, 180
Roth I, 334
Spr II, 818

H Insylois umbrosis Europ

Prope Heidelberg in duneto
adviam vetus den Karlsh
1826

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Kew. Herb.
Kotschy
Taurus, August, male
cones 3/4 inch long —
not quite mature

Syria, Hooker, Sept – Oct.
pollen shed, but cones
still on & fresh.

Algeria, Munby, Oct. 1853
Male cones have just
shed their pollen.

Himalaya a Thompson. Aug.
Male cones almost ready
to shed

—

Cedar of Lebanon sheds
its pollen at Kew —
— when?

A. Gray's notes in Herb Kew
Oct. 24 1868

over

Gray in letter of Nov 27 says:

Thompson & Edgeworth assure me that they have seen Deodara in full flower in the Himalayas in the autumn, say, early in Oct.

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Cedrus Libani, ament. fem. Oct 8 1868

Florence cult

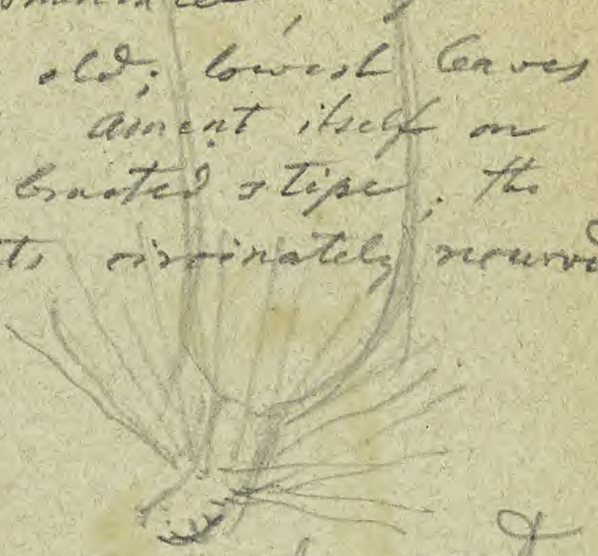
female ament, nat. size

×4

orifice of ovules ×30

bilobed, upper lobe turned up, lower one ragged, sometimes 2-horned, or 1-horned & always turned down, so that the orifice of ovule appears as a slit or transverse opening.

male and terminal female ament on a branchlet, very short but several years old; lowest leaves have fallen off! ament itself on a short densely bracted stipe; the upper most bracts ovulate, recurved

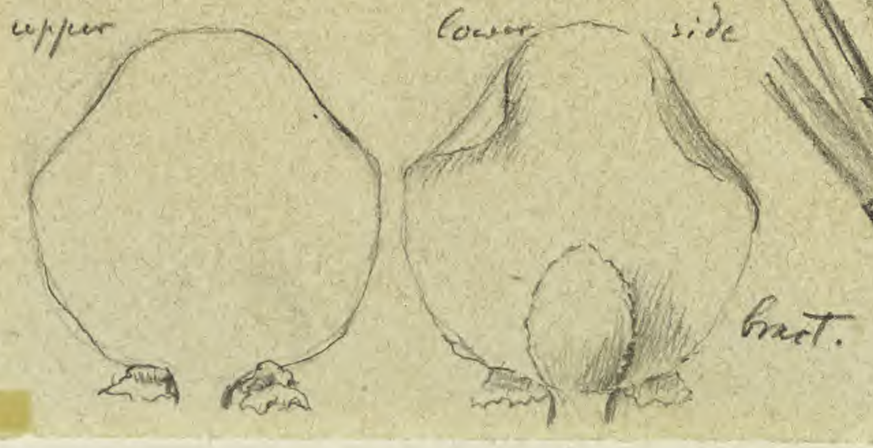


male ament

×10

scale, front view

×10



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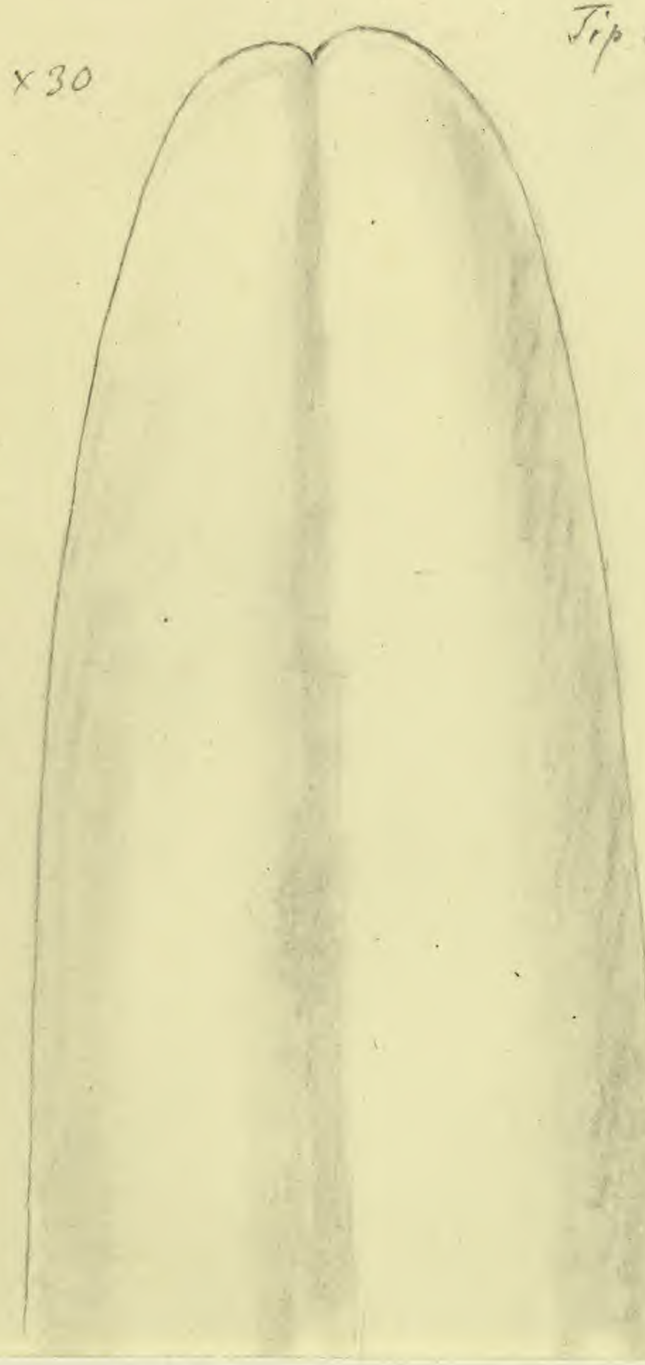
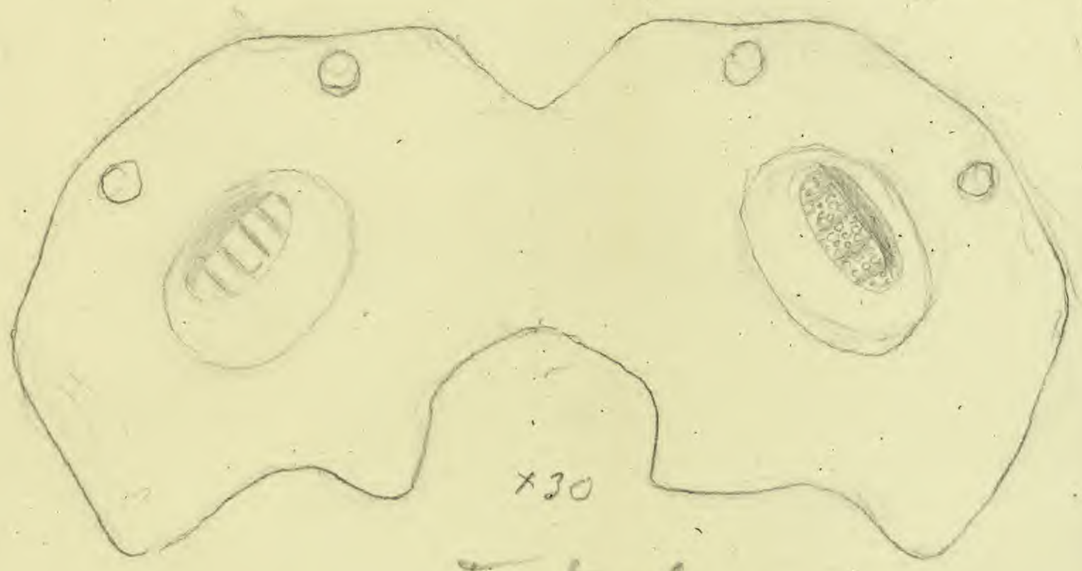
Sciadopitys, Schottmuellia April 23 1871

Tip & section of youngest leaf, uppermost verticil.

×30





×30

×30

Stomata only in This groove

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Sciadopitys

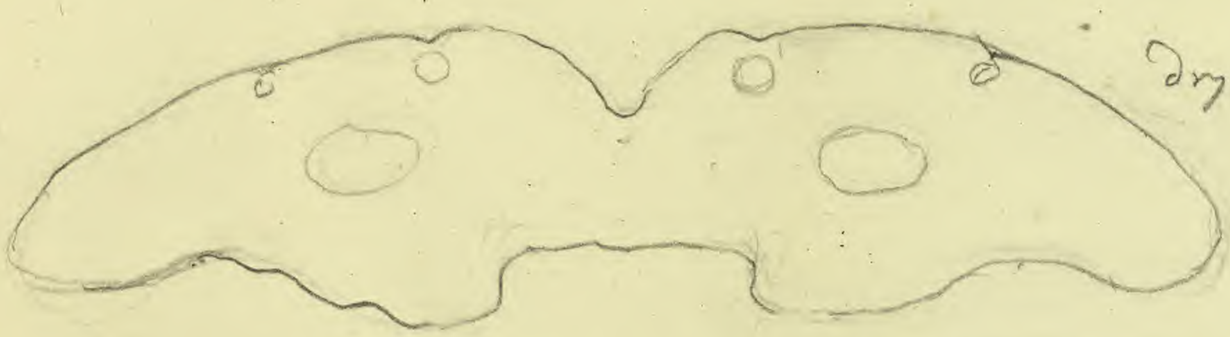
Japan, Schottmüller Exp, 1860 Hb Berlin 1869

April 22 1871

×4

Sterile bract on axis between the verticils

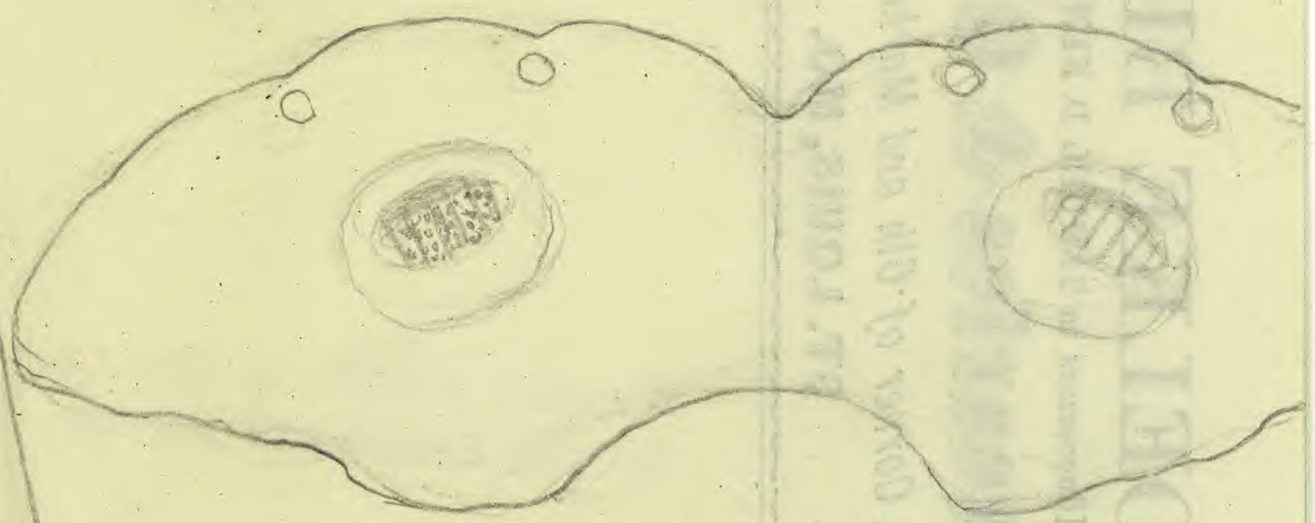
Leaf-bearing bract.



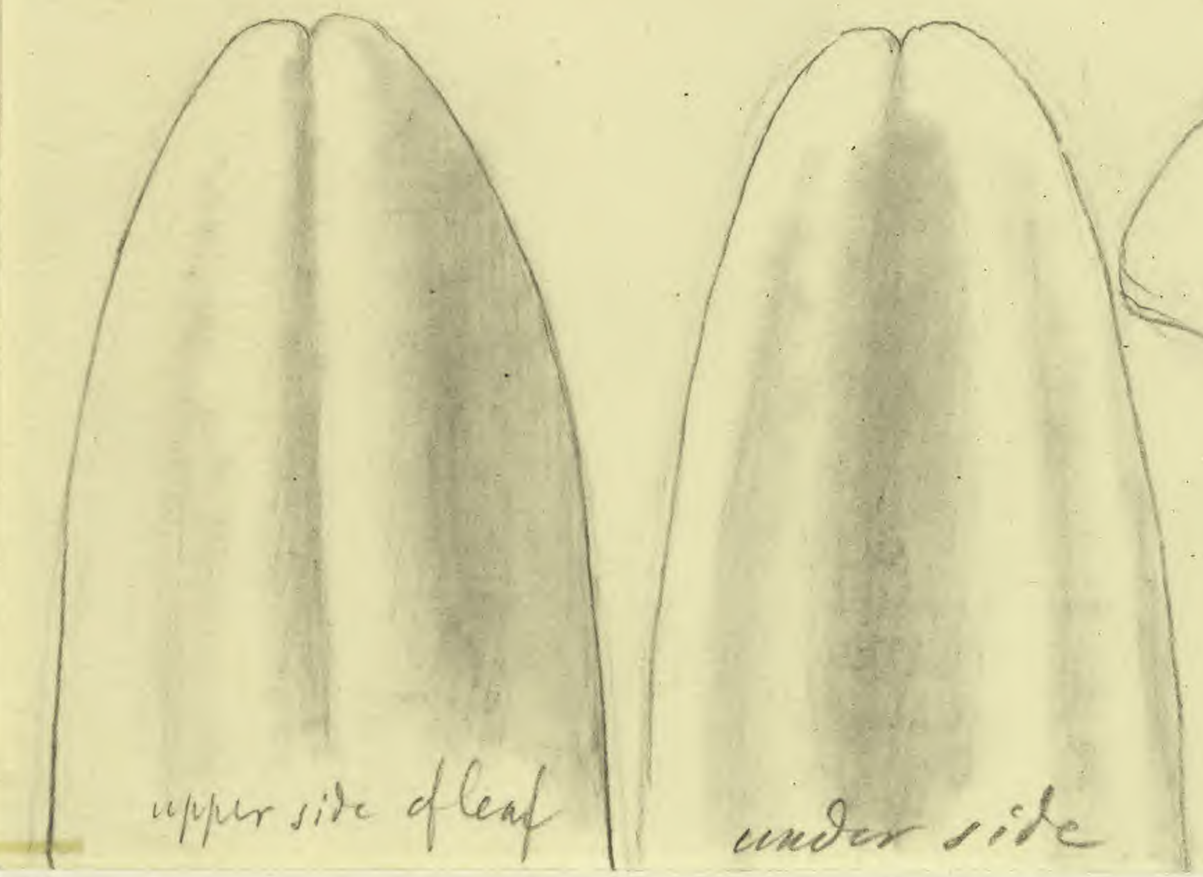
Dry leaf

×30

Soaked & boiled



old leaf, 3 years — 3rd verticil from top



upper side of leaf

under side

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Sciadopitys Bot Jrit Jan 1871 Leaf = Thujopsis reversed!

Mohl 27 60 — Coniferæ wood upwards, bast below in the vascular bundle = entire

2 Cotyledons leaves & abt 6 of first year close to them = Sikuli

2d year internode one rib & organs of all following shoots — Wood of small bundles = taxil of Sik the so called bifid notched leaves, with central groove on both sides — the whole analogous to Pinus but 2 leaves united & no resin (Virginia) at their base

Pinus & Abies have two vascular bundles in each leaf, wood upward, bast below all enclosed in a single sheath of cells containing chlorophyll

Sciadopitys has two such distinct bundles separated round & bare and enclosed in different sheaths — and wood fibres downward and bast upward, medullary rays of both divergent, not parallel — stomata only in the groove of the lower side

Transfusion tissue of Mohl, peculiar to Coniferæ, especially developed in the broad leaved Taxineæ, intermixed below parenchy-ally and (tracheids = bast fibres) — assists in the functions of wood — & bast tissue = the distribution of fluids through the leaf

This structure shows the relation of Sciadopitys to the real leaf, not a cladode (different from Phyllocladus!)

In Abies the central vessels are more or less divided in two by a layer medullary ray

Sciadopitys leaf consists of two laminæ (cotyledons) on secondary axis connate with their upper edge (that turned towards the main axis) and thus covering the sides — opposite downward

over

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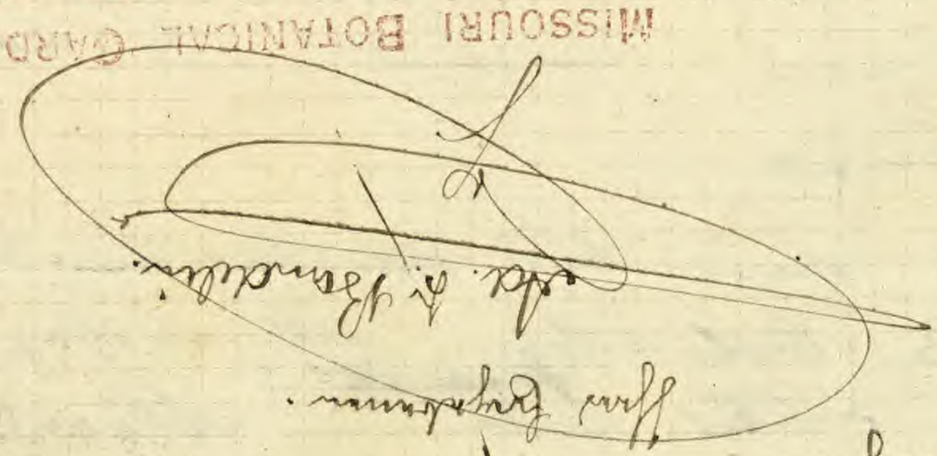
leaves or scales

The Carpel of Abietineae is analogous.
Brown was the first to say that they consist of
two leaves of a secondary axis — Von Trichem
found that these 2 leaves are certainly
connate with the upper edge their upper surface
thereof turned down, and the lower (now
become the upper one) ovule-bearing — Leaves
& the Vertical of wood & bast bundles in
(first as it is & Vorkeimpflanze)



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Scalopites

April 22 1871

Japan

Schottmüller

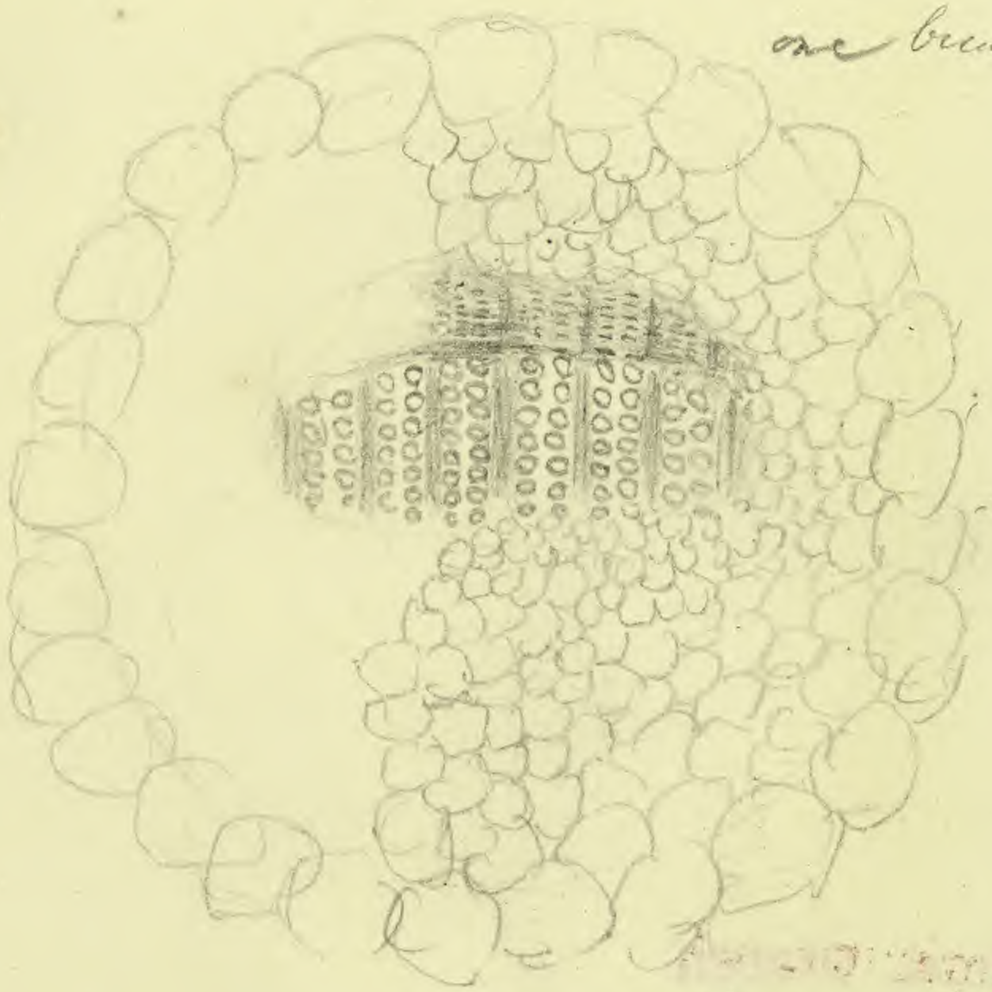
Hb. Hedberg

1.

×150

one bundle of vessels

from old leaf



woody cells × 285

of leaf bundle

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Leitch & Corlies

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Sciadopitys verticillata April 15 1878

sem. Prof Sargent mis

seeds

seed removed from its shell

×4

×4

embryo compressed

cotyledons 2, flat

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upper side of Cotyledon, section

resin deposits

Oct 6 B 1878

parts of section of Cotyledon X280

X280

lower side of Cotyledon, reduced

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Arisaema triphyllum coll by A Douglas Waukegan Octob 11th 1878

germinating

Colgl x10

sect. of Colgl x30

Upper surface deep shining green no stomata

stomata and 5 D-cts on lower surface

epidermis of upper surface x280

epidermis of lower surface x280

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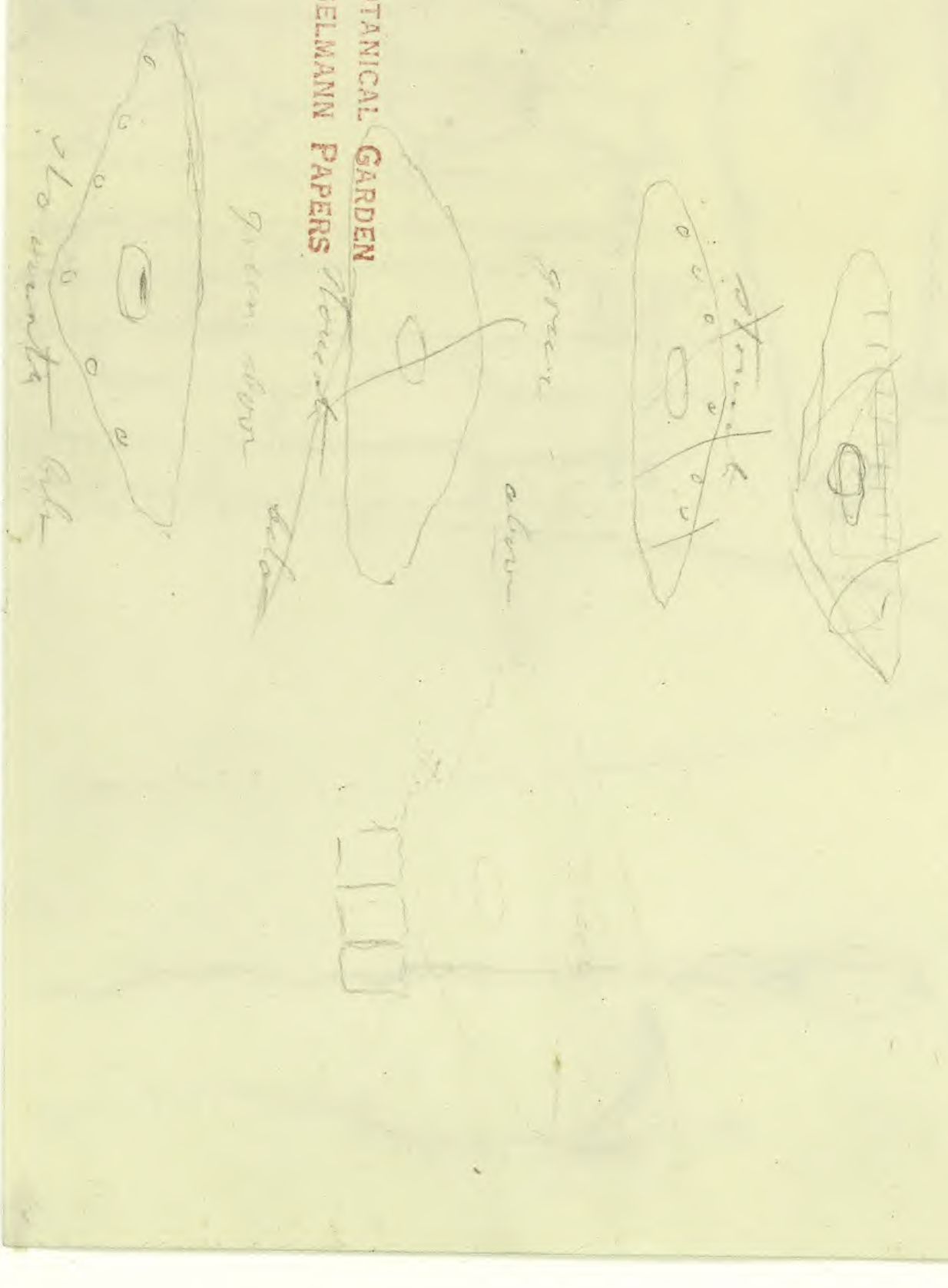

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Soria dopitzi

Oct 13 1877

upper side

section of vascular bundle of cotyledon

×280

no distinct sheath

lower side

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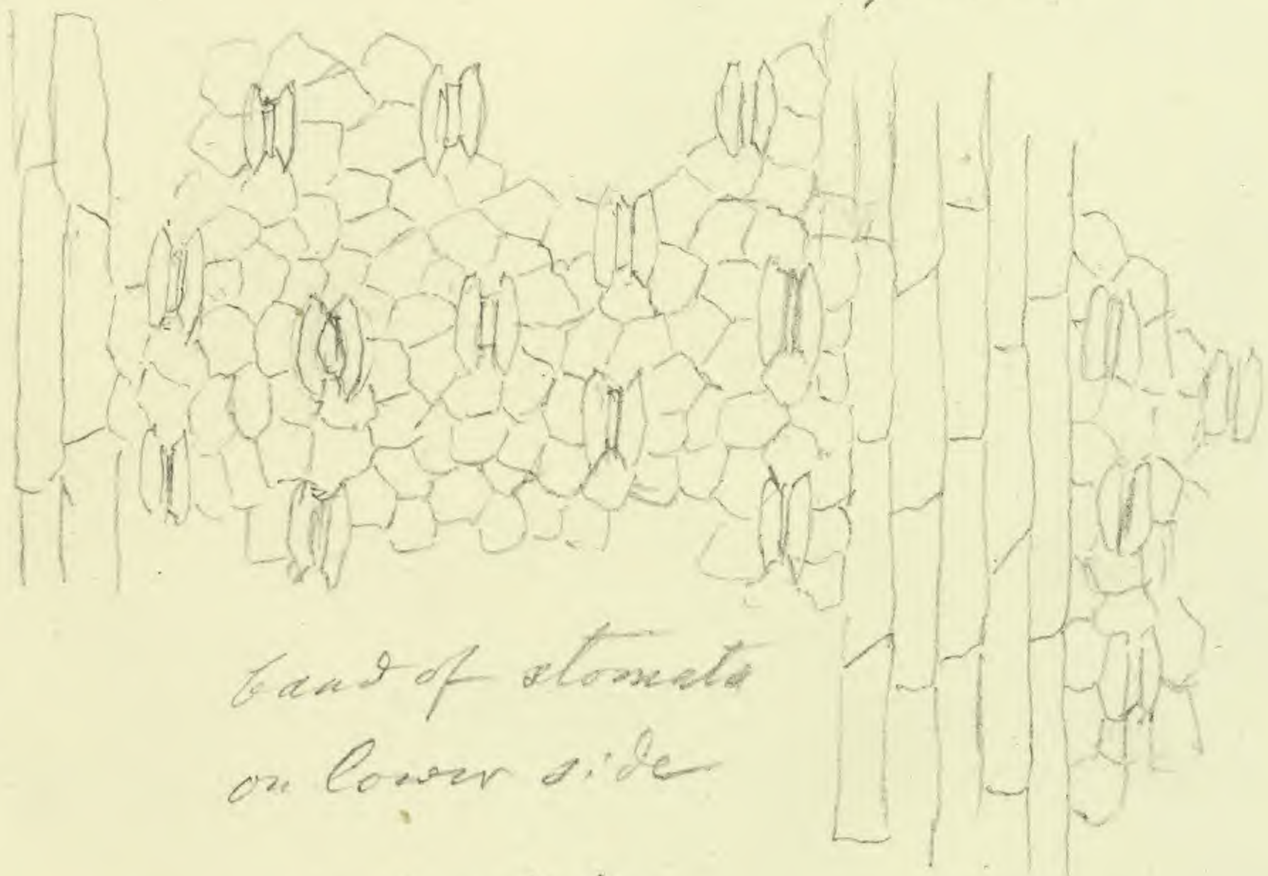
Sonchus spinosus, first leaves after cotyledons Nov 22 '79



× 150. lower side epidermis

band of stomata on lower side

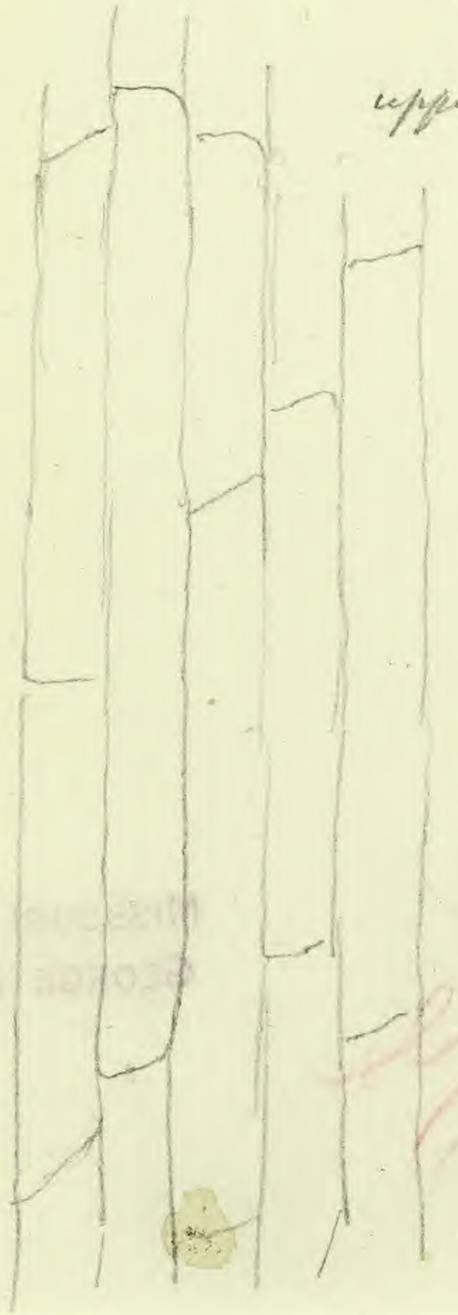
several bands with likes of stomata on each side of the mid rib

bands without Stomata

Nicotiana Douglasii coll

× 150

upper side, larger epiderm cells, no stomata



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first leaves

Isoëtes adspersa var. *verticillata*

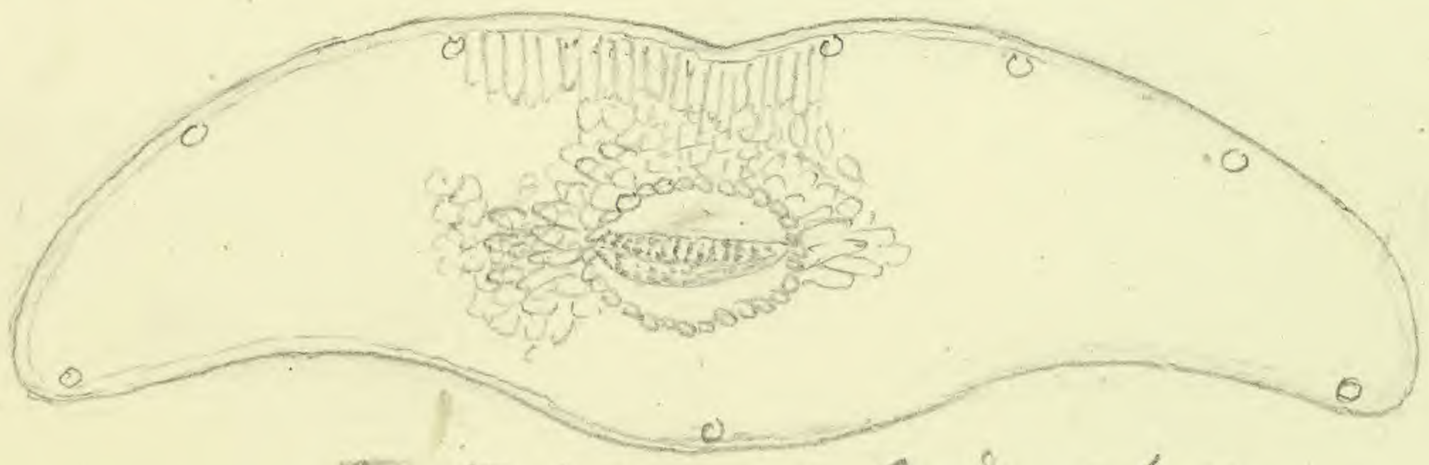
Nov 22 1879

mixed by A. Douglas, Waukegan Ill.

2d year

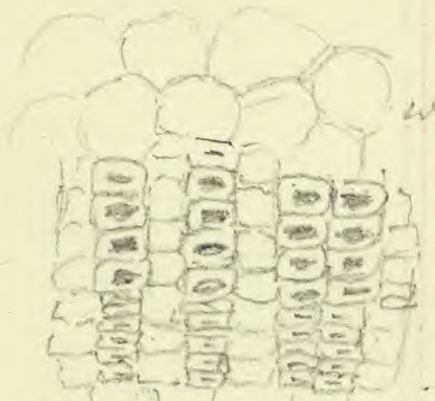
first leaves after the cotyledons

× 30



stomata in zonate bands only on lower side

× 280



wood and bast cells

× 280 and pith cells

rows of pith cells of the bottom the rows of wood and bast cells

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